

VALUE ENGINEERING CHANGE PROPOSAL  
MISSOURI DEPARTMENT OF TRANSPORTATION

Date 5/19/09

Contract ID 090424-901 Job No. J9I2166  
County Phelps Original Bid Cost \$11,128,718.41  
Contractor Iron Mountain Construction By Paul Corr  
Designed By MoDOT Phone 314 220 1167  
VECP# 09-81 (to be completed by C.O.) VEC ☒ or VEC/PDU ☐

1. Description of existing requirements and proposed change(s). Advantages/Disadvantages  
IMCS proposes to change the traffic control plans as described in the plans to a Head to Head traffic plan on the existing East Bound lanes of I-44. There are considerable cost and time savings associated with this proposal but there will also be an impact on the traffic for both the East bound and West bound lanes. A detailed breakdown of the cost savings and proposed and project impacts are attached. This VEC also includes changing the full depth 10" PCCP on stabilized permeable base on Type 1 aggregate to an 11" PCCP inlay on existing asphalt base with 1 1/2" dowel baskets.

2. Estimate of reduction in construction costs. \$1,500,000

3. Prediction of any effects the proposed change(s) will have on other department costs, such as maintenance and operations.

The proposed pavement design change will not impact operations or maintenance costs.

4. Anticipated date for submittal of detailed change(s) of items required by Section 104.6 of the Specifications.

9/18/2009  
(date)

5. Deadline for issuing a change order to obtain maximum cost reduction, noting the effect of contract completion time or delivery schedule.

9/30/09  
(date)

(effect)

6. Dates of any previous or concurrent submission of the same proposal.

N/A  
(date and/or dates)

**Additional Comments:**

We believe the cost savings, the shorter project duration and the increased safety associated with separating the construction traffic from the general public is a benefit to all parties involved. Please see the attached sheet with additional comments and details

**\*\* Portion Below This Line To Be Filled Out by MoDOT \*\***

**Comments:**

Recommend approval as 50/50 VBCP, with addition of a \$9300.00 dollars per day liquated damage charged to each day after November 22, 2009 that traffic remains head-to-head.

*Victoria Woods*

Submitted By Resident Engineer

09-14-09

Date

**Comments:**

- ☒ Approval  
Recommended
- ☐ Rejection  
Recommended

*Tom St. John*

District Engineer

*9/14/09*

Date

**Comments:**

- ☐ Approval  
Recommended
- ☐ Rejection  
Recommended

*PLEASE SEE the ATTACHED SHEET*

*WITH FHWA's COMMENTS. [Signature] Sept. 29/2009*

Federal Highway Administration

Date

Required for FHWA Full Oversight Projects

**Comments:**

- ☒ Approval
- ☐ Rejection

*Approve as a 50/50 split. FHWA will  
NOT participate in incentive payment, if  
any, to the contractor.*

*David D. [Signature]*

State Construction and Materials Engineer *BMW*

*10-5-09*

Date

Distribution: Resident Engineer, Project Manager, District Construction & Materials Engineer, State Construction & Materials Engineer,  
Value Engineering Administrator - MoDOT, P. O. Box 270, Jefferson City, MO 65102

### VALUE ENGINEERING CHANGE PROPOSAL

Contract ID: 090424-901

Job No. J9I2166

Federal No. I-44-2(223)

Contractor: Iron Mountain Construction Services

County: Pheps

#### Comments:

FHWA recommended for approval as 50/50 share under the following criteria:

1. Traffic Control (Head-to-Head):

- a. A liquidated damage of \$9,300 will be charged to each day after the completion day of November 22, 2009. The disincentive payments should be charged continuously until the works have been completed.
- b. All crossover-s should be removed within the 75 calendar day period.

2. Pavement Design:

- a. The VECF propose the replacement of the 10" PCCP section with 1 1/4' dowels on stabilized base on aggregate base and 15 foot transverse joint spacing with an 11" concrete pavement section with 1 1/2" dowels on the existing asphalt base and 13 foot transverse joint spacing. If the remaining asphalt to be left in place as the base for the 11" concrete pavement is damaged by rutting or any other visible deformation from construction or any other traffic, the remaining asphalt material shall be removed down to the bottom of the remaining asphalt and replaced either Type 5 aggregate or hot mix asphalt back to the grade needed to facilitate the placement of the 11" concrete pavement at NO ADDITIONAL COST.
- b. Paving the acceleration and deceleration lanes with 5 3/4" of Superpave in lieu of the full depth pavement section, except for the Kings Highway ramps that will need to mill down 6" and place 6" of asphalt mix per specifications.

3. Incentives: The contractor (IMCS) proposes an incentive of \$18,900 per calendar day if all lanes are open to traffic prior to November 22, 2009.

- a. A decision has been made that FHWA will not participate in the incentive for early completion of \$18,900 per calendar day.

☒ Approval  
Recommended

☐ Rejection  
Recommended

  
FELIX R. GONZALEZ

Federal Highway Administration  
Required for FHWA Full Oversight Projects

Sept. 29, 2009

Date

### VECP for I-44 Phelps County - Head to Head Traffic

This VECP is based on switching the traffic to the EBL without any restriction in the lane drop length (or work zone length) and reduction of the Contract time to 75 Calendar days from Labor Day. The Total estimated Savings are \$1,500,000, per the attached spreadsheet. The proposal is based on switching the WB I-44 traffic to the EB lanes in a head to head configuration from east of Route E to West of Sugar tree. We have included 5 cross-over's, one at Route E, two at Kings Highway, one off ramp at the Doolittle interchange and one at Sugar tree. Also included are 6 truck pull-offs for area per the attached drawings.

We believe this proposal will provide a safer work zone and allow for additional controls of the roadway profile and mitigate potential concrete quantity over-runs in the unbonded overlay section.

The proposal also includes

- Replacement of the 10" PCCP on stabilized base on aggregate base with an 11" concrete pavement section with 1 ½" dowels and 13 foot transverse joint spacing.
- Paving the Acceleration and deceleration lanes with 5 ¾" of Superpave in lieu of the full depth pavement section
- Maintaining the maximum closure days for the Route E and Kings Highway interchanges per the Specifications.
- The WB lanes will be open to 2 lanes of traffic within 75 Calendar days after Labor Day; permanent striping may need to be completed in the spring of 2010 if weather prevents this activity being completed prior to Thanks giving.
- All liquidated damages will be in effect per the Specifications
- IMCS proposes an incentive of \$18,600 per calendar day if all lanes are open to traffic prior to November 22, 2009.
- Engineering costs have been included in this proposal; final drawings will be issued once the traffic control VE has been approved
- IMCS will inspect the EB lanes of I-44 prior to switching traffic to the head to head configuration and repair any damaged areas.
- Daily inspections of the I-44 EB lanes, any potential failure areas will be repaired at nighttime when traffic counts are lesser unless an emergency condition arises.
- All crossover-s will have light plants running
- IMCS will maintain the project DBE requirements, a revised DBE utilization plan will be submitted once the VE is approves. We propose to subcontract the pavement sawing and basket installation to DBE subcontractors since the temporary barrier was originally a DBE subcontractor

**Value Engineering Proposal to Use Head to Head Traffic in the EB Lanes**

Line #	Description	Plan Qty	Unit	Unit Price	Bid Extension
0020	Class A Excavation (58,766 * 7" Deep) Full Depth Section	(11,427.00)	CY	\$ 10.50	\$ (119,983.50)
0050	Stabilized Permeable Base	(58,766.00)	SY	\$ 14.00	\$ (822,724.00)
0060	Type 1 Aggregate Base	(58,766.00)	SY	\$ 4.00	\$ (235,064.00)
0410	10" PCCP	(58,766.00)	SY	\$ 36.00	\$ (2,115,576.00)
<b>Components of the 11" PCCP</b>					
0998	Add 10" PCCP Base Bid	58,766.00	SY	\$ 36.00	\$ 2,115,576.00
	Add 1 1/2" Basket vs 1 1/4' Baskets (38,900 LF at \$2)	38,900.00	LF	\$ 2.00	\$ 77,800.00
	Add 1" of Concrete (11" vs 10")	1,632.00	CY	\$ 81.00	\$ 132,192.00
	Add Fine Grade asphalt base with mill	58,766.00	SY	\$ 1.85	\$ 108,717.10
	<b>Accel / Decel and Gore Areas (8,885 SY)</b>				
	Deduct Class A Excavation (14.25" deep)	(3,615.00)	CY	\$ 10.50	
0050	Stabilized Permeable Base	(8,885.00)	SY	\$ 14.00	\$ (124,390.00)
0060	Type 1 Aggregate Base	(8,885.00)	SY	\$ 4.00	\$ (35,540.00)
0410	11" PCCP	(8,885.00)	SY	\$ 41.42	\$ (368,016.70)
	Add 5 3/4" Asphalt Pavement	8,885.00	SY	\$ 28.50	\$ 253,222.50
<b>Add Plan Quantity Bust under A2 Shoulder for full depth sections</b>					
0050	Stabilized Permeable Base	(10,607.00)	SY	\$ 14.00	\$ (148,498.00)
0060	Type 1 Aggregate Base	(10,607.00)	SY	\$ 4.00	\$ (42,428.00)
0270	Temporary Barrier	(11,963.00)	LF	\$ 30.00	\$ (358,890.00)
0280	Relocate Temporary Barrier	(11,963.00)	LF	\$ 1.75	\$ (20,935.25)
0998	Reduce Full Depth Pavement Area - 26 foot pour	(7,955.00)	SY	\$ 41.25	\$ (328,143.75)
0997	Add equivalent A2 Shoulder	7,955.00	SY	\$ 23.80	\$ 189,329.00
0998	Reduce full Depth pavement width by 2' - no barrier needed	(2,651.78)	SY	\$ 41.25	\$ (109,385.83)
0996	Crossovers	6,400.00	SY	\$ 29.00	\$ 185,600.00
	18" CMP at Crossovers	1,100.00	LF	\$ 32.00	\$ 35,200.00
	Truck Pull-offs	6.00	Ea	\$ 3,500.00	\$ 21,000.00
995	Lighting at Cross-Overs	1.00	LSUM	\$ 10,000.00	\$ 10,000.00
	Tubular Markers	1,450.00	Ea	\$ 45.00	\$ 65,250.00
	Additional Construction Signs	2,500.00	SY	\$ 9.00	\$ 22,500.00
	Flag Sets for Signage	100.00	Ea	\$ 30.00	\$ 3,000.00
	Temporary Barrier at Rte E and Sugar Tree	500.00	LF	\$ 30.00	\$ 15,000.00
	Remove and replace Concrete Barrier at Rte E	500.00	LF	\$ 52.00	\$ 26,000.00
	Removal of Cross-over's	6,400.00	SY	\$ 6.00	\$ 38,400.00
	Engineering Costs	1.00	LSUM	\$ 14,000.00	\$ 14,000.00
	Additional Impact attenuator (19 Sand Barrels)	3.00	Ea	\$ 5,700.00	\$ 17,100.00

**Total Savings for both components of VECF**

**\$ (1,499,688.43)**

# VALUE ENGINEERING CHECK SHEET

## *TYPE OF WORK*

(Check one that applies)

- ☐ Bridge/Structure/Footings
- ☐ Drainage Structures (RCP, RCB, CMP's, ect.)
- ☒ TCP/MOT
- ☒ Paving (PCCP, ect.)
- ☐ Grading/MSE Walls
- ☐ Signal/Lighting/ITS
- ☐ Misc. \_\_\_\_\_

## *SUMMARY OF PROPOSAL*

(If needed, condense summary to a couple of lines)

The main concept of this proposal is to change the traffic control plan to allow for head to head traffic. Also included in this proposal is to change from 10" PCCP on stabilized permeable base and aggregate base to 11" PCCP inlay on existing asphalt base.

## *SCANNING OF DOCUMENT*

If the proposal is large, please mark or make note, which pages need to be scanned into the database. If there are special instructions, make note of them here.

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